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REMARKS

Claims 1-28 are currently pending in the subject application and are presently under consideration. Favorable reconsideration of the subject patent application is respectfully requested in view of the comments below.

**I. Rejection of Claims 1-6 Under 35 U.S.C. §112, First Paragraph**

Claims 1-6 stand rejected under 35 U.S.C. §112, first paragraph, as containing subject matter not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. This rejection should be withdrawn for at least the following reasons. The disclosure coupled with information known in the art at the time of the invention provides sufficient detail for one of ordinary skill in the art to perform the invention without undue or unreasonable experimentation.

The standard for determining if the enablement requirement is met is to determine whether the experimentation needed to practice the invention is undue or unreasonable. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). See also *United States v. Telectronics, Inc.*, 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988) ("The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation."). MPEP §2164.01

In the subject Office Action (dated November 3, 2003), the Examiner asserts "nowhere in the instant specification is it disclosed how the two verbs are actually used in arriving at the workflow processing system described" and "the only apparent piece of evidence of how the two-verb process algebra is used ... does not suggest ... representing parallelism by separating communicating and independent transactions." (p.2, ¶3.). Contrary to this assertion, both the original and previously amended claims recite utilizing a *first verb* of a process algebra to *represent* at least one *independent* transaction and utilizing a *second verb* of the process algebra to *represent* the at least one parent *interdependent* [communicating] transaction, wherein the *first and second verbs* are respectively employed to *differentiate* the *independent* transaction(s) from the *interdependent* transaction(s). Thus, the subject application discloses how the two-verb process algebra is utilized in a business process; the two verbs are utilized to represent and

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separate communicating and independent transactions. "In establishing a disclosure, applicant may rely not only on the description and drawing as filed but also on the original claims if their content justifies it. Where subject matter not shown in the drawing or described in the description is claimed in the application as filed, and such original claim itself constitutes a clear disclosure of this subject matter, then the claim should be treated on its merits...." (See MPEP§608.01(I)). "Original claims form part of the original disclosure and provide their own written description." (See *In re Anderson*, 471 F.2d 1237, 176 USPQ 331 (CCPA 1973)).

In addition, the detailed description provides "the use of two verbs allows for explicitly representing parallelism within the business workflow process by separating communicating concurrent transactions from independent concurrent transactions...." (Application, p.14, ll.21-24). Moreover, and as noted in the Reply to the previous Advisory Action, applicants' burden is to present persuasive arguments and the evidence provided by applicant need not be conclusive but merely convincing to one skilled in the art. (See MPEP §2164.05). Further, since PI calculus was known in the art at the time of the invention, PI calculus and derivations thereof need not be provided in detail in the specification since one skilled in the art could practice the claimed invention upon review of applicants' detailed specification and claims.

In view of the foregoing, it is readily apparent that one reasonably skilled in the art at the time of the invention could make or use the invention from the specification and information known in the art without undue experimentation. Accordingly, this rejection of independent claim 1 (and claims 2-6, which depend therefrom) should be withdrawn.

## **II. Rejection of Claims 1-6 and 23 Under 35 U.S.C. §101**

Claims 1-6 and 23 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. It is respectfully submitted that this rejection is improper for at least the following reasons. The subject claims are directed to statutory subject matter.

Because the claimed process applies the Boolean principle to produce a useful, concrete, tangible result ... on its face the claimed process comfortably falls within the scope of §101. *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358. (Fed.Cir. 1999); See *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1601 (Fed.Cir.1998) (finding a system implementing a financial

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management structure satisfied §101 because it constituted a practical application of a mathematical algorithm by producing a useful, concrete and tangible result).

The Examiner asserts that claims 1-6 and 23 recite non-statutory subject matter and relies on *In re Warmerdam*, 33 F.3d 1354, 31 U.S.P.Q.2D (BNA) 1754 (Fed. Cir. 1994) and *In re Schrader*, 22 F.3d 290, 30 U.S.P.Q.2D (BNA) 1455 (Fed. Cir. 1994) to support this assertion. As provided in the Reply to the Advisory Action, the court in *AT&T* stated that *Schrader* is *not helpful*, and *Warmerdam* is *not* contrary, in ascertaining whether an abstract idea is applied in a practical manner to produce a useful, concrete and tangible result. (*See AT&T Corp.* at 1360).

In addition, the subject claims clearly are directed towards practical applications that produce a useful, concrete and tangible result. For example, the claims recite utilizing process algebra (e.g., a two-verb PI calculus derivation) to facilitate generating models in the art of business process modeling. As known, essentially any business process can be interpreted as a sequence of basic transactions or workflows (*See* p.2, ¶1) and, thus, can be modeled *via* the claimed invention. Processing of such transaction has introduced data for reliability, availability, performance, and fault tolerant storage and processes, and contributed to client-server models and remote procedure calls for distributed computation. (*See* p.1, ¶2). Further, workflow applications can be of particular utility in processing business transactions between different companies and automation of such processes can result in significant improvements in efficiency, not otherwise possible. (*See* p.1, ¶2). Various other benefits and improvements provided by the present invention can be found throughout the application. In another example, the claims recite utilizing process algebra to generate application programming language code (e.g., SLANG, *See* FIGs. 6-25), which can be represented as a GUI or a schedule that facilitates modeling business workflow processes. (*See* p.3, ¶1 and p.11, ¶1).

Since the claimed invention reduces to a practical application that produces a useful, concrete and tangible result when at least employed in the art of business process modeling, the subject claims, under *AT&T*, are statutory subject matter. Accordingly, withdrawal of the rejection of claims 1-6 and 23 is respectfully requested.

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### III. Rejection of Claims 7-14, 22-25, and 28 Under 35 U.S.C. §102(b)

Claims 7-14, 22-25, and 28 stand rejected under 35 U.S.C. §102(b) as being anticipated by Release 8.0 of the publicly available Workflow Template software product as evidenced by "Using the WFT Development Environment" (hereinafter, "Template"). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Template does not teach or suggest *each and every* element as set forth in the subject claims.

A single prior art reference anticipates a patent claim only if it expressly or inherently describes each and every limitation set forth in the patent claim. *Trintec Industries, Inc., v. Top-U.S.A. Corp.*, 295 F.3d 1292, 63 U.S.P.Q.2d 1597 (Fed. Cir. 2002). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The subject invention relates to a methodology that utilizes a process algebra (*e.g.*, PI calculus) to generate a language that facilitates modeling a business workflow process. The methodology includes separating a transaction that comprises an independent and an interdependent transaction into respective independent and interdependent transactions, wherein a first verb of the process algebra is utilized to represent the independent transaction and a second verb of the process algebra is utilized to represent the interdependent transaction, which provides for transaction differentiation that improves business workflow process modeling. Template does not teach or suggest utilizing a *two-verb PI calculus to represent and differentiate independent and interdependent transactions* in connection with business workflow process modeling.

Instead, Template discloses a workflow environment that includes displaying a "junction box" at a location in a graphical interface, wherein the "junction box" is utilized to split an incoming flow into multiple (exact copies) output flows (a "copy flow"), which can be routed to arbitrary destinations. (*See* Important terms, Table 1-3, p.3-3). In the subject Office Action, the Examiner incorrectly refers to this "junction box" as a "distinguishing" component and references page 3-12 of Template to support this contention. (p.3, ¶16). However, this section of

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Template is silent regarding a "distinguishing" component. At most, this section of Template provides "a junction box is displayed at the location where the flow splits into separate flows to form a copy flow. An *exact copy* of the work items or work item set is sent to each destination task." (See p.3-20). (Emphasis added). Thus, as taught by Template, a "junction box" is a splitter or flow replicater that accepts a flow and provides two or more *exact* (indistinguishable) *copies* of a flow. The Examiner concedes that the "junction box" supplies the "same" (REQUISITION) flow (p.3, ¶6); and, thus implicitly concedes that the "junction box" does not distinguish. However, the Examiner continues to argue otherwise.

For example, the Examiner asserts that the "copy flow distinguishes the tasks associated with the copies of the flow and not the flows themselves." (pp.3-4, ¶6). This statement is not disclosed or supported in Template. Rather, Template provides "the junction box [is] where the flow splits into a copy flow." (p.3-20). Thus, Template discloses a graphical box that splits a flow into exact copies and does not mention a copy flow that distinguishes tasks, let alone utilizing a two-verb PI calculus algebra to represent and differentiate independent and interdependent transactions. Moreover, since the output comprises exact copies, it clearly is obvious that the task where a particular exact copy is conveyed is of no consequence to the "junction box."

The Examiner further asserts Template discloses employing the "junction box" to distinguish between separate flows and single flows. (p.3, ¶6). However, Template does not teach or suggest such aspects. As noted above, Template discloses *splitting* a single flow into a plurality of identical flows, *not* distinguishing between separate flows and single flows. Thus, the goal of conveying a flow to the "junction box" is *not* to separate and distinguish independent and interdependent transactions, as recited in the subject claims, but to generate two or more exact copies of a flow. Hence, the "junction box" simply is utilized to generate a plurality of indistinguishable flows.

In addition, Template does not teach or suggest *autonomous and interdependent* transactions, as recited in the subject claims. In general, Template discloses a workflow design editor that can be employed to generate a graphical representation (workflow design) of a workflow system, wherein a user can create, edit and remove work items, tasks, flows, junctions and labels from the representation. (See p.3-2). The work items (information) are created, processed and destroyed at tasks, and are routed between tasks *via* flows (paths). More

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particularly, an individual work item can be routed to a task (*via* a plain flow path) or the individual work item can be routed to a "junction box" and *replicated*, wherein multiple individual *exact copies* are created and routed to respective tasks (*via* copy flow paths). (See p.3-12; Figure 3-3; p.3-20). Template is silent regarding autonomous and interdependent transactions as recited in the subject claims.

Furthermore, Template is silent regarding a component that *defines transaction boundaries*, as recited in the claimed invention. As disclosed in the subject application, a boundary-establishing component can be employed to define transaction boundaries for parent interdependent transactions. (See p.5, ¶2 and p.12, ¶3). Likewise, Template is silent regarding a component that *defines synchronizing constraints*, as recited in the claimed invention. In contrast, the subject application discloses a component for defining concurrent synchronizing constraints, wherein synchronized constraints of transactions are expressed with respect to completion of autonomous operations. (See p.4, ¶2, p.5, ¶1 and p.12, ¶3). Moreover, Template does not mention *process algebra*, let alone employing a process algebra or derivations thereof, as recited in the subject claims.

In view of the foregoing, it is respectfully submitted that Template does not teach or suggest *each and every* element as set forth in the subject claims; thus, this rejection of independent claims 7, 12, 22-24 and 28 and dependent claims 8-11, 13-14 and 25 should be withdrawn.

#### IV. Rejection of Claims 15-20 Under 35 U.S.C. §103(a)

Claims 15-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Template. It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Template does not teach or suggest all the claim limitations of the subject claims.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable

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expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §706.02(j). [T]he mere fact that the reference can be modified does not render the modification obvious unless the cited art also suggests the desirability of the modification. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

For at least the reasons noted *supra* regarding independent claim 12 (from which claims 15-20 depend), Template does not teach or suggest the claimed invention. Furthermore, there is no teaching, suggestion or motivation in Template to be modified to render the claimed invention and the mere fact that references can be modified does not render the modification obvious unless the cited art also suggests the desirability of the modification. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Accordingly, the rejection of claims 15-20 should be withdrawn.

**V. Rejection of Claim 21 Under 35 U.S.C. §103(a)**

Claim 21 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Template as applied to claim 13. Official Notice is taken by the Examiner that it is well-known and commonly practiced in the computer arts at the time the subject invention was made to incorporate a computer readable medium into a computer system in order to allow data transfer between the medium and the system, such as, for example, for the execution of a program embodied in a CD-ROM medium on such a computer system. It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Claim 21 depends from independent claim 12, and the Official Notice does not make up for the aforementioned deficiencies of Template with respect to claim 12. Accordingly, withdrawal of this rejection is respectfully requested.

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**VI Rejection of Claims 15-20 Under 35 U.S.C. §103(a)**

Claims 15-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Template as applied to claim 12, and further in view of Chen, *et al.* (US 5,940,839). This rejection should be withdrawn for at least the following reasons. Template does not teach or suggest the claimed limitations of independent claim 12 as noted *supra*, and Chen, *et al.* fails to make up for the aforementioned deficiencies of Template. Accordingly, this rejection should be withdrawn.

**VII. Rejection of Claims 26 and 27 Under 35 U.S.C. §103(a)**

Claims 26 and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Template as applied to claim 24, and further in view of Ambler, *et al.* (US 6,393,456). Withdrawal of this rejection is respectfully requested for at least the following reasons. Claims 26 and 27 depend from independent claim 24, and Ambler, *et al.* does not make up for the aforementioned deficiencies of Template regarding the limitations recited in claim 24. Therefore, this rejection should be withdrawn.



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Conclusion

The present application is believed to be in condition for allowance, in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

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